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thick. In other respects the diagram shows the several parts of the size they were actually made.

Observatory, Sydney:
1893 *December* 20.

P.S.—The necessary break in the circuit to leave out the 60th second is made by a wheel on the escape-wheel axis, which has only one tooth, and this tooth lifts a small tilt-hammer arrangement once a minute and breaks circuit for one second.

[*Note by the Editors.*—When the above paper was read to the meeting on 1894 March 9, it was remarked that similar devices had been used before. Messrs. T. Cooke & Sons, of York, have shown in a sketch (Plate 8) an arrangement of the kind made by them some years back. As it does not appear certain, however, that any account of such an arrangement has yet been published, the Council deemed it advisable to publish Mr. Russell's paper, together with Messrs. Cooke's sketch.]

Occultation of α Virginis observed at Dunsink, 1894 *March* 22.

By Professor Arthur A. Rambaut, M.A., Sc.D.

The occultation of α *Virginis*, which took place on the morning of Good Friday, was observed here by my assistant, Mr. Lyster, and myself. I used the 12-inch refractor, with a power of 300, and recorded the times of disappearance and reappearance electrically on the chronograph. Mr. Lyster was stationed at the 5-inch guiding telescope, attached to the "Roberts" photographic equatorial, carrying a power of 100, and noted the times by direct comparison with an Arnold clock in the dome. The error and rate of this clock were determined by comparing it with a chronometer which was also compared with the Dent sidereal clock.

At the time of disappearance we were enveloped in a dense fog, which completely obscured *Spica* and *Saturn* (which was in the neighbourhood) from the naked eye, but by the time the star was due to reappear the fog had almost entirely cleared away.

To me the star seemed to disappear instantaneously at $15^h\ 31^m\ 46^s{\cdot}97$ local sidereal time. This was, of course, at the bright limb.

At emergence I put a note to the effect that "reappearance was not quite instantaneous, perhaps a tenth of a second before full brilliance was attained." The time noted as that of reappearance corresponds to the first gleam of light sufficient to attract my attention. This occurred at $16^h\ 41^m\ 24^s{\cdot}91$ local sidereal time.

Mr. Lyster reports that both disappearance and reappearance seemed to him to occur instantaneously; the former at $15^h\ 31^m\ 45^s{\cdot}9$, and the latter at $16^h\ 41^m\ 24^s{\cdot}6\pm$, local sidereal time.

Dunsink Observatory, Co. Dublin:
1894 *March* 27.

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Observations of Denning's Comet (a 1894), made at the Royal Observatory, Greenwich.

(*Communicated by the Astronomer Royal.*)

The observations were made with the East, or Sheepshanks, equatorial, aperture 6·7 inches, by taking transits over two cross-wires at right angles to each other, and each inclined 45° to the parallel of declination. Magnifying power 55.

Greenwich Mean Solar Time.	Observer.	☄ − ∗ R.A.	Corr. for Refraction.	Log Factor of Parallax.	☄ − ∗ N.P.D.	Corr. for Refraction.	Log Factor of Parallax.	No. of Comps.	Appt. R.A.	Appt. N.P.D.	Comp. ∗
1894. d h m s		m s	s		′ ″	″			h m s	° ′ ″	
Mar. 27 8 20 46	A. C.	−1 20·49	0·00	9·1467	−6 4·9	0·0	0·4945	3	9 58 12·56	58 17 48·2	*a*
27 8 28 20	„	−1 52·58	0·00	9·1040	+2 44·9	0·0	0·4905	6	9 58 13·32	58 17 54·4	*b*
31 8 50 35	„	−2 12·85	0·00	8·9045	−1 39·5	0·0	0·5229	7	10 12 28·29	60 29 49·1	*c*
Apr. 2 8 43 52	„	−2 22·02	0·00	8·9413	−0 59·5	0·0	0·5439	6	10 19 0·72	61 34 20·2	*d*
2 8 40 1	„	−5 5·00	0·00	8·9792	−3 38·3	0·0	0·5449	5	10 19 0·35	61 34 15·6	*e*
3 10 16 24	L.	+0 52·55	0·00	8·8874	+4 43·1	0·0	0·5511	2	...	...	*f*
3 10 16 24	„	+0 19·24	0·00	8·8874	−6 22·8	0·0	0·5511	2	10 22 22·47	62 8 25·7	*g*
6 8 42 27	A. C.	−2 3·06	0·00	8·9211	+0 3·4	0·0	0·5780	5	10 31 8·49	63 40 57·6	*h*
9 10 40 34	„	−1 18·00	0·00	9·1063	−1 4·2	0·0	0·6092	4	10 39 43·75	65 16 1·5	*i*
9 10 40 34	„	−1 18·72	0·00	9·1063	−1 43·7	0·0	0·6092	4	10 39 43·89	65 16 2·1	*k*

Notes.

The observations are corrected for refraction, but not for parallax. They are also corrected for the errors of inclination of the wires, and for the motion of the comet.

On April 2 a slight haze and the close proximity of the 9·5 magnitude star B.D. + 28° 1877 to the comet made observation of the latter very difficult. The apparent place of the star on April 2 was R.A. $10^h\ 18^m\ 59^s{\cdot}35$, N.P.D. 61° 35′ 21″·9 (authority, *Bonn Observations*, vol. vi.), and it was estimated that the comet was in conjunction with it in R.A. at $8^h\ 31^m$ G.M.T.

On April 6 the night was hazy and the comet never well defined.

The initials L. and A.C. are those of Mr. Lewis and Mr. Crommelin respectively.

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